

Title (en)
JOINT MECHANISM, MANIPULATOR, AND MANIPULATOR SYSTEM

Title (de)
GELENKMECHANISMUS, MANIPULATOR UND MANIPULATORSYSTEM

Title (fr)
MÉCANISME D'ARTICULATION, MANIPULATEUR, ET SYSTÈME DE MANIPULATEUR

Publication
EP 3095375 A4 20171101 (EN)

Application
EP 15737635 A 20150109

Priority
• JP 2014004376 A 20140114
• JP 2015050541 W 20150109

Abstract (en)
[origin: EP3095375A1] This invention achieves bendability with a small traction force, reduced device size, and improved controllability. Provided is a joint mechanism (12a) including a tubular first member (13a) having a through-hole (17); a second member (13b) disposed at the distal end of the first member (13a) and swivelable about a swivel axis intersecting a central axis thereof; a flexible, tubular guide sheath (21a, 21b) extending near the central axis of the through-hole (17) and a distal end of which is fixed to the second member (13b); a manipulation wire (22a, 22b) introduced toward the distal end of the guide sheath; and a turnaround section (20a, 20b) that is provided in the second member (13b) at a position decentered from the swivel axis in the radial direction and that causes the manipulation wire (22a, 22b) introduced from the first member (13a) via the guide sheath (21a, 21b) to make a U-turn toward the first member (13a). A distal end of the manipulation wire (22a, 22b) caused to make a U-turn at the turnaround section (20a, 20b) is fixed to a position decentered in the radial direction.

IPC 8 full level
A61B 1/00 (2006.01); **A61B 1/005** (2006.01); **A61B 1/008** (2006.01); **B25J 17/00** (2006.01)

CPC (source: EP US)
A61B 1/0055 (2013.01 - EP US); **A61B 1/0057** (2013.01 - EP US); **A61B 1/008** (2013.01 - EP US); **A61B 34/71** (2016.02 - EP US); **A61B 2017/00314** (2013.01 - EP US); **A61B 2017/00323** (2013.01 - EP US)

Citation (search report)
• [X1] US 2004054322 A1 20040318 - VARGAS JAIME SALVADOR [US]
• [A] US 2007035143 A1 20070215 - BLACKWELL TREVOR [US], et al
• [A] WO 2007120353 A2 20071025 - INTUITIVE SURGICAL INC [US]
• [A] US 2010241135 A1 20100923 - IIDA MASATOSHI [JP]
• [A] JP 2010259479 A 20101118 - HOYA CORP
• See references of WO 2015107999A1

Cited by
CN108453722A; US11745361B2; US10786909B2; US10864053B2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
EP 3095375 A1 20161123; EP 3095375 A4 20171101; CN 105899117 A 20160824; CN 105899117 B 20181002; JP 2015131015 A 20150723; JP 6129087 B2 20170517; US 11497387 B2 20221115; US 2016316996 A1 20161103; US 2019313882 A1 20191017; WO 2015107999 A1 20150723

DOCDB simple family (application)
EP 15737635 A 20150109; CN 201580004099 A 20150109; JP 2014004376 A 20140114; JP 2015050541 W 20150109; US 201615205591 A 20160708; US 201916456320 A 20190628